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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/472,105 12/27/99 THORNBOROUGH

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MMC2/0718

EXAMINER

MARTIN, L.	
ART UNIT	PAPER NUMBER

2855
DATE MAILED:

07/18/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/472,105

Applicant(s)

THORNBOROUGH, RAY J.

Examiner

Lilybett Martir

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Title

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Specification

The disclosure is objected to because of the following informalities:

- On page 7, lines 6 and 26, the odometer is referred to using two different numbers, 41 and 42.

Appropriate correction is required.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: elements 8 and 9. Correction is required.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

- The date in which the inventor signed the oath is not specified.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16, 9-11 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Gossens (Pat. 4,721,864). Gossens discloses the claimed invention, including:

- A rotor as in element 1, having an axis of rotation (Col. 2, lines 12-15) and having a plurality of magnetically switchable elements as in element 3, spaced around it's axis and rotatable and movable along a path of travel (Col. 1, lines 8-11), each of said magnetically switchable elements having at least four magnetic states, a sensor as in element 4, disposed adjacent said rotor for carrying magnetically produced electrical pulses (Col. 2, lines 46-47); two magnets as in elements 11, disposed adjacent said sensor to produce magnetic fields of opposite polarity along the path of travel for the plurality of magnetically switchable elements; and wherein as said rotor is rotated, inherently said two magnets cause each of said magnetic elements to be magnetically switched through the four magnetic states to produce two electrical pulses in the sensor for each revolution of the rotor, as in claim 1.
- Wherein the plurality of magnetically switchable elements in the rotor includes five magnetically switchable elements as in element 3, and wherein inherently ten electrical pulses are produced for one revolution of the rotor, as in claim 2.

- The plurality of magnetically switchable elements as in element 3 are equally and angularly spaced around the axis of rotation as is noted in Figure 2, as in claims 3 and 5.
- A magnetically switchable element in the rotor having a core as in element 6 which is magnetically switchable between two polarity states and a shell as in element 10 which surrounds the core and is magnetically switchable between two polarity states to provide four magnetic states for each magnetically switchable element, as in claim 4.
- The two magnets as in elements 11 are stationary, as in claim 6.
- The sensor includes a coils of wire as in element 7, encircling the rotor, as in claim 9.
- A carrier as in element 8 encircling the rotor on which the coil of wire is carried (Col. 2, lines 27-28), as in claim 10.
- Two magnets that are permanent magnets as in elements 11, as in claim 11.
- The rotor of the pulse transducer is coupled to a magnetic pickup for responding to rotation of a corresponding magnetic driver in a flow meter (Col. 2, lines 46-49), as in claim 14.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goosens in view of Jerger et al. (Pat. 4,793,192). Goosens teaches the claimed invention, but he does not disclose:

- Two magnets are positioned diametrically across the rotor, as in claims 7 and 8.

Jerger et al. teaches a pulse receiver that utilizes two magnets as in elements 25 and 26 that are positioned diametrically across a rotating probe as noted on Figure 1.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Jerger et al. in the pulse generator of Goosens by providing magnets that are positioned diametrically across the rotor, for the purpose of making the desired measurements and by experimentation using a different arrangement of the elements; since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233; and since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gossens (Pat. 4,721,864) in view of Sekido (Pat. 4,676,662). Gossens discloses the claimed invention, but he does not teach:

- The rotor being coupled to a dial hand that rotates around a dial face having decimal numbers, as in claim 12.

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Sekido teaches a conventional clock that has a dial hand as in elements 1 and 2, that rotates around a dial face as in element 3 that has decimal numbers.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the teachings of Sekido in the pulse generator of Goosens for the purpose of providing said pulse generator with a readable display as a dial hand located in a dial face that physically shows the values of the amount of volume that is being measured.

Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gossens (Pat. 4,721,864) in view of Evans et al. (Pat. 4,200,785). Gossens discloses the claimed invention, but he does not teach:

- The rotor is coupled to a plurality of odometer number wheel through a drive mechanism, as in claim 13.
- The rotor is coupled through a gearing arrangement to the magnetic pickup for response to a flow meter, and wherein said gearing arrangement also couples said magnetic pickup to an odometer in a meter register, as in claim 15.

Evans et al. teaches a pulse generator wherein a rotor is coupled to a plurality of odometer number wheel through a drive mechanism (Col. 4, lines 38-41) and that is coupled through a gearing arrangement to the magnetic pickup for responding to the rotation of a corresponding magnetic driver in a flow meter (Col. 4, lines 41-43), as can be noted in Fig. 2 and 3.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the teachings of Evans et al. in the pulse generator of Goosens for the purpose of providing said pulse generator with a readable display as an odometer that physically shows the values of the amount of volume that is being measured.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilybett Martir whose telephone number is (703)305-6900. The examiner can normally be reached on 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Fuller can be reached on (703)308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3432 for regular communications and (703)305-3432 for After Final communications.

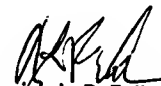
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.



Lilybett Martir
Examiner
Art Unit 2855



July 16, 2001



Benjamin R. Fuller
Supervisory Patent Examiner
Technology Center 2800